

# Appendix C: References

- Abbott, M.R., and D.B. Chelton, 1991: Advances in passive remote sensing of the ocean, U.S. National Report to IUGG. *Reviews of Geophysics*, Supplement, 571-583.
- Abbott, M.R., and R.M. Letelier, 1998: Decorrelation scales of chlorophyll as observed from bio-optical drifters in the California Current. *Deep-Sea Res.*, **45**, 1639-1668.
- Abbott, M.R., P.J. Richerson, and T.M. Powell, 1982: In situ response of phytoplankton fluorescence to rapid variations in light. *Limn. Oceanog.*, **27**, 218-225.
- Aber, J.D., 1979: A method for estimating foliage-height profiles in broadleaved forests. *J. Ecology*, **67**, 35-40.
- Ackerman, S.A., K.I. Strabala, W.P. Menzel, R.A. Frey, C.C. Moeller, and L.E. Gumley, 1998: Discriminating clear sky from clouds with MODIS. *J. Geophys. Res.*, **103**, 32,141-32,157.
- Alishouse, J.C., S. Synder, J. Vongsathorn, and R.R. Ferraro, 1990: Determination of oceanic total precipitable water from the SSM/I. *IEEE Trans. Geosci. Remote Sens.*, **28**, 811-816.
- Anderson, J., J.M. Russell III, S. Solomon, and L.E. Deaver, 2000: Halogen occultation experiment confirmation of stratospheric chlorine decrease in accordance with the Montreal Protocol. *J. Geophys. Res.*, **105**, 4483.
- Andreae, M.O., J. Fishman, M. Garstang, J.G. Goldammer, C.O. Justice, J.S. Levine, R.J. Sholes, B.J. Stocke, A.M. Thompson, B. VanWilgen, and STARE/TRACE-A SAFARI-92 Science Team, 1994: Biomass burning in the global environment. *Global Atmospheric-Biospheric Chemistry*, ed. by R.G. Prinn, Plenum Press, New York, 83-101.
- Anyamba, E., and J. Susskind, 1998: A comparison of TOVS surface skin and air temperature with other data sets. *J. Geophys. Res.*, **103** (C5), 10,489-10,511.
- Asrar, G., 1989: *Theory and Applications of Optical Remote Sensing*, John Wiley & Sons, New York, 734 pp.
- Asrar, G., and J. Dozier, 1994: *Science Strategy for the Earth Observing System*. American Institute of Physics Press, Woodbury, NY., 119 pp.
- Asrar, G., and R. Greenstone, eds., 1995: *MTPE/EOS Reference Handbook*. NASA Pub. NP-215, National Aeronautics and Space Administration, Washington, D.C., 276 pp.
- Aumann, H.H., and C. Miller, 1995: Atmospheric Infrared Sounder (AIRS) on the Earth Observing System. *Advanced and Next Generation Satellites. Europe/SPIE*.
- Aumann, H., D. Gregorich, S. Gaiser, D. Hagan, T. Pagano, and D. Ting, 1999: AIRS Algorithm Theoretical Basis Document Level 1B Part 1: Infrared Spectrometer, version 2.1, available at <http://eospso.gsfc.nasa.gov/atbd/airstable.html>.
- Austin, R.W., 1974: Inherent spectral radiance signals of the ocean surface. In *Ocean Color Analysis*, SIO ref. 74-10, Scripps Inst. Oceanog., La Jolla, CA, 2.1-2.20.
- Avery, T.E., and H.E. Burkhart, 1994: *Forest Measurements*. McGraw-Hill, New York, 416 pp.
- Avis, L.M., R.N. Green, J.T. Suttles, and S.K. Gupta, 1984: A robust pseudoinverse spectral filter applied to the Earth Radiation Budget Experiment (ERBE) scanning channels. *NASA Tech. Memo.* TM-85781, 33 pp.
- Balch, W.M., P.M. Holligan, S.G. Ackleson, and K.J. Voss, 1991: Biological and optical properties of meso-scale coccolithophore blooms in the Gulf of Maine. *Limn. Oceanog.*, **34**, 629-643.
- Barkstrom, B.R., 1984: The Earth Radiation Budget Experiment (ERBE). *Bull. Amer. Meteor. Soc.*, **65**, 1170-1185.

- Barkstrom, B.R., and G.L. Smith, 1986: The Earth radiation budget experiment: Science and implementation. *Rev. Geophys.*, **24**, 379-390.
- Barkstrom, B.R., and B.A. Wielicki, 1995: Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document. Volume I - Overviews, Subsystem 0 - CERES Data Processing System Objectives and Architecture, NASA Ref. Pub. 1376, vol. I, 21-97.
- Barnsley, M.J., and J.-P. Muller, 1991: Measurement, simulation and analysis of directional reflectance properties of Earth surface materials. ESA SP-319, 375-382.
- Barton, I.J., M. Zavody, D.M. O'Brien, D.R. Cutten, R.W. Saunders, and D.T. Llewellyn-Jones, 1989: Theoretical algorithms for satellite-derived sea surface temperatures. *J. Geophys. Res.*, **94**, 3365.
- Baum, B.A., R.M. Welch, P. Minnis, L.L. Stowe, J.A. Coakley, Jr., Q. Trepte, P. Heck, X. Dong, D. Doelling, S. Sun-Mack, T. Murray, T. Berendes, K.-S. Kuo, and P. Davis, 1995a: Imager clear-sky determination and cloud detection (Subsystem 4.1). *Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document, Volume III: Cloud Analyses and Radiance Inversions (Subsystem 4)*, NASA Ref. Pub. 1376, 3, ed. by the CERES Science Team, 43-82.
- Baum, B.A., P. Minnis, J.A. Coakley, Jr., B.A. Wielicki, P. Heck, V. Tovinkere, Q. Trepte, S. Mayor, T. Murray, and S. Sun-Mack, 1995b: Imager cloud height determination (Subsystem 4.2). *Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document, Volume III: Cloud Analyses and Radiance Inversions (Subsystem 4)*, NASA Ref. Pub. 1376, 3, ed. by the CERES Science Team, 83-134.
- Becker, F., 1987: The impact of spectral emissivity on the measurement of land surface temperature from a satellite. *Int. J. Remote Sens.*, **8** (10), 1509-1522.
- Beer, J., G.M. Raisbeck, and F. Yiou, 1991: The variation of  $^{10}\text{Be}$  and solar activity. In *The Sun in Time*, ed. by C.P. Sonnet, M.S. Giampapa, and M.S. Mathews, U. Arizona Press, 343-359.
- Bidigare, R.R., M.E. Ondrusek, J.H. Morrow, D.A. Kiefer, 1990: In vivo absorption properties of algal pigments. SPIE Vol. 1302, Ocean Optics X, 290-302.
- Breigleb, B.P., and V. Ramanathan, 1982: Spectral and diurnal variations in clear-sky planetary albedo. *J. Climate Appl. Meteor.*, **21**, 1168-1171.
- Brest, C.L., and S.N. Goward, 1987: Deriving surface albedo measurements from narrow band satellite data. *Int. J. Remote Sens.*, **8**, 351-367.
- Brooks, D.R., E.F. Harrison, P. Minnis, J.T. Suttles, and R.S. Kandel, 1986: Development of algorithms for understanding the temporal and spatial variability of the Earth's radiation balance. *Rev. Geophys.*, **24**, 422-438.
- Brown, G.S., 1979: Estimation of surface winds using satellite-borne radar measurements at normal incidence. *J. Geophys. Res.*, **84**, 3974-3978.
- Brown, M.J., and G.G. Parker, 1994: Canopy light transmittance in a chronosequence of mixed-species deciduous forests. *Canadian J. Forest Res.*, **24**, 1694-1703.
- Brown, O.B., and R.E. Cheney, 1983: Advances in satellite oceanography. *Rev. Geophys. Space Phys.*, **21**, 1216-1230.
- Carder, K.L., R.G. Steward, J.H. Paul, and G.A. Vargo, 1986: Relationship between chlorophyll and ocean color constituents as they affect remote-sensing reflectance models. *Limn. Oceanog.*, **31**, 403-413.
- Carder, K.L., S.K. Hawes, K.A. Baker, R.C. Smith, R.G. Steward, and B.G. Mitchell, 1991a: Reflectance model for quantifying chlorophyll *a* in the presence of productivity degradation products. *J. Geophys. Res.*, **96**, 599-611.
- Carder, K.L., W.W. Greg, D.K. Costello, K. Haddad, and J.M. Prospero, 1991b: Determination of Saharan dust radiance and chlorophyll from CZCS imagery. *J. Geophys. Res.*, **96**, 5369-5378.
- Carter, D.J.T., P.G. Challenor, and M.A. Srokosz, 1992: An assessment of Geosat wave height and wind speed measurements. *J. Geophys. Res.*, **97**, 11,383-11,392.
- Cavalieri, D.J., P. Gloersen, and W.J. Campbell, 1984: Determination of sea ice parameters with the Nimbus-7 SMMR. *J. Geophys. Res.*, **89**, 5355-5369.

- Cavalieri, D.J., J. Crawford, M.R. Drinkwater, D. Eppler, L.D. Farmer, R.R. Jentz, and C.C. Wackerman, 1991: Aircraft active and passive microwave validation of sea ice concentration from the DMSP SSM/I. *J. Geophys. Res.*, **96**, 21,989-22,008.
- Cavalieri, D.J., P. Gloersen, C.L. Parkinson, J.C. Comiso, and H.J. Zwally, 1997: Observed hemispheric asymmetry in global sea ice changes. *Science*, **272**, 1104-1106.
- Cess, R., E. Dutton, J. DeLuisi, and F. Jiang, 1991: Determining surface solar absorption from broadband satellite measurements for clear skies: Comparisons with surface measurements. *J. Climatol.*, **4**, 236-247.
- Chahine, M.T., 1980: Infrared remote sensing of sea surface temperature. In *Remote Sensing of Atmospheres and Oceans*, ed. by A. Deepak, Academic Press, New York, 411-435.
- Chahine, M.T., 1977: Remote sounding cloudy atmospheres. II. Multiple cloud formations. *J. Atmos. Sci.*, **34**, 744-757.
- Chahine, M.T., 1982: Remote sounding of cloud parameters. *J. Atmos. Sci.*, **39**, 159-170.
- Chahine, M.T., 1992: The hydrological cycle and its influence on climate. *Nature*, **359**, 373-380.
- Chahine, M.T., H.H. Aumann, and F.S. Taylor, 1977: Remote sounding of cloudy atmospheres. III. Experimental verifications. *J. Atmos. Sci.*, **34** (5), 758-765.
- Chahine, M.T., R. Haskins, J. Susskind, and D. Reuter, 1987: Satellite observations of atmospheric and surface interaction parameters. *Adv. Space Res.*, **7**, 111-119.
- Chahine, M.T., H. Aumann, M. Goldberg, R. Haskins, E. Kalnay, L. McMillin, P. Rosenkranz, W. Smith, D. Staelin, L. Strow, and J. Susskind, 1997a: AIRS Team Unified Retrieval for Core Products—Level 2, version 1.6; updated at <http://eospso.gsfc.nasa.gov/atbd/airstables.html>.
- Chahine, M.T., H. Aumann, E. Kalnay, H. Revercomb, L. McMillin, W. Smith, L. Strow, R. Haskins, E. Fetzer, E. Fishbein, S. Granger, M. Hofstadter, B. Lambrigtsen, T. Li, E. Olsen, C. Thompson, R. Knuteson, P. vanDelst, and W. McMillan, 1997b: AIRS Team Science Data Validation Plan—Core Products, version 1.2; updated at <http://eospso.gsfc.nasa.gov/atbd/airstables.html>.
- Chahine, M.T., R. Haskins, and E. Fetzer, 1997c: Observation of the recycling rate of moisture in the atmosphere: 1988-1994. *GEWEX News*, **7** (3), 1.
- Chamberlin, W.S., and J. Marra, 1992: Estimation of photosynthetic rate from measurements of natural fluorescence: Analysis of the effects of light and temperature. *Deep-Sea Res.*, **39**, 1695-1706.
- Chang A.T.C., and T.T. Wilheit, 1979: Remote sensing of atmospheric water vapor, liquid water and wind speed at the ocean surface by passive microwave techniques from the Nimbus-5 satellite. *Radio Sci.*, **14**, 793-802.
- Chang, A.T.C., J.L. Foster, and D.K. Hall, 1987: Nimbus 7 SMMR derived global snow cover parameters. *Ann. Glaciol.*, **9**, 39-44.
- Chang, A.T.C., L.S. Chiu, and T.T. Wilheit, 1993: Oceanic monthly rainfall derived from SSM/I. *Eos Trans. Amer. Geophys. Union*, **74**, 505-513.
- Chang, A.T.C., J.L. Foster, D.K. Hall, B.E. Goodison, A.E. Walker, J.R. Metcalfe, and A. Harby, 1997: Snow parameters derived from microwave measurements during the BOREAS winter field campaign. *J. Geophys. Res.*, **102**, 29,663-29,671.
- Chang, A.T.C., L.S. Chiu, C. Kummerow, J. Meng, and T.T. Wilheit, 1999: First results of the TRMM monthly oceanic rain rate: Comparison with SSM/I. *Geophys. Res. Lett.*, **26**, 2379-2382.
- Chang, H.D., P.H. Hwang, T.T. Wilheit, A.T.C. Chang, D.H. Staelin, and P.W. Rosenkranz, 1984: Monthly distributions of precipitable water from the Nimbus 7 SMMR data. *J. Geophys. Res.*, **89**, 5328-5334.
- Charlock, T.P., and T.L. Alberta, 1996: The CERES/ARM/GEWEX Experiment (CAGEX) for the retrieval of radiative fluxes with satellite data. *Bull. Amer. Meteor. Soc.*, **77**, 2673-2683.
- Charlock, T.P., F. Rose, S.-K Yang, T. Alberta, and G. Smith, 1993: An observation study of the interaction of clouds, radiation, and the general circulation. *Proceedings of the IRS '92: Current Problems in Atmospheric Radiation*. Tallinn (3-8 August 1992), A. Deepak Publishing, 151-154.

- Charlock, T.P., D. Rutan, G.L. Smith, F.G. Rose, T.L. Alberta, N. Manalo-Smith, L.H. Coleman, D.P. Kratz, T.D. Bess, and K.A. Bush, 1995: Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document. Volume IV - Determination of Surface and Atmosphere Fluxes and Temporally and Spatially Averaged Products (Subsystems 5-12), Subsystem 5.0 - Compute Surface and Atmospheric Fluxes, NASA Ref. Pub. 1376, Vol. IV, 1-52.
- Chelton, D.B., and P.J. McCabe, 1985: A review of satellite altimeter measurement of sea surface wind speed: with a proposed new algorithm. *J. Geophys. Res.*, **90**, 4707-4720.
- Chomko, R., and H.R. Gordon, 1998: Atmospheric correction of ocean color imagery: Use of the Junge power-law aerosol size distribution with variable refractive index to handle aerosol absorption. *Appl. Opt.*, **37**, 5560-5572.
- Chu, D.A., Y.J. Kaufman, L.A. Remer, and B.N. Holben, 1998: Remote sensing of smoke from MODIS airborne simulator during the SCAR-B experiment. *J. Geophys. Res.*, **103** (D24), 31,979-31,987.
- Cihlar, J.C., H. Ly, Z. Li, J. Chen, H. Pokrant, and F. Huang, 1997: Mult-temporal, multichannel AVHRR data sets for land biosphere studies—Artifacts and corrections. *Remote Sens. Environ.*, **60**, 35-57.
- Coakley, J., R.D. Cess, and F.B. Yurevich, 1983: The effect of tropospheric aerosol on the Earth's radiation budget: A parameterization for climate models. *J. Atmos. Sci.*, **40**, 116-138.
- Codrescu, M.V., S.E. Palo, X. Zhang, T.J. Fuller-Rowell, and C. Poppe, 1999: TEC climatology derived from TOPEX/POSEIDON measurements. *J. Atmos. Solar-Terrest. Phys.*, **61** (3-4), 281-298.
- Cohen, W.B., T.A. Spies, and G.A. Bradshaw, 1990: Semivariograms of digital imagery for analysis of conifer canopy structure. *Remote Sens. Environ.*, **57**, 167-178.
- Comb, D.G., 1990: Ice-out in Maine. *Nature*, **347**, 510.
- Comiso, J.C., 1986: Characteristics of winter sea ice from satellite multispectral microwave observations. *J. Geophys. Rev.*, **91**, 975-994.
- Comiso, J.C., 1995: SSM/I sea ice concentrations using the bootstrap algorithm, NASA Ref. Pub. 1380, December 1995, 49 pp.
- Comiso, J.C., 2000: Variability and trends in Antarctic surface temperatures from in situ and satellite infrared measurements. *J. Climate*, **13** (10), 1674-1696.
- Comiso, J.C., and H.J. Zwally, 1997: Temperature corrected bootstrap algorithm. *IEEE IGARSS'97 Digest*, **3**, 857-861.
- Comiso, J.C., D.J. Cavalieri, C.P. Parkinson, and P. Gloersen, 1997: Passive microwave algorithms for sea ice concentration: A comparison of two techniques. *Remote Sens. Environ.*, **60**, 357-384.
- Cotton, P.D., and D.J.T. Carter, 1994: Cross calibration of TOPEX, ERS-1 and Geosat wave heights. *J. Geophys. Res.*, **99**, 25,025-25,033.
- Culver, M.E., and M.J. Perry, 1994: Detection of phycoerythrin fluorescence in upwelling irradiance spectra. *Eos, Trans. Amer. Geophys. Union*, **75**, 233.
- Daley, R., 1991: *Atmospheric Data Analysis*, Cambridge University Press, 457 pp.
- De Abreu, R.A., J. Key, J.A. Maslanik, M.C. Serreze, and E.F. LeDrew, 1994: Comparison of in situ and AVHRR-derived broadband albedo over Arctic sea ice. *Arctic*, **47** (3), 288-297.
- Deepak, A., ed., 1980: *Remote Sensing of Atmospheres and Oceans*, Academic Press, New York, 641 pp.
- d'Entremont, R.E., C.L. Barker Schaaf, W. Lucht, and A.H. Strahler, 1999: Retrieval of red spectral albedo and bidirectional reflectance using AVHRR HRPT and GOES satellite observations of the New England region. *J. Geophys. Res.*, **D-104**, 6229-6239.
- Deschamps, P., and T. Phulpin, 1980: Atmospheric correction of infrared measurements of sea surface temperature using channels at 3.7, 11, and 12 mm. *Boundary-Layer Meteor.*, **18**, 131-143.
- Deschamps, P.Y., M. Herman, and D. Tanré, 1983: Modeling of the atmospheric effects and its application to the remote sensing of ocean color. *Appl. Opt.*, **33**, 7096-7116.
- Dickinson, R.E., 1987: Evapotranspiration in global climate models. *Adv. Space Res.*, **7**, 17-26.

- Di Girolamo, L., and R. Davies, 1994: A band-differenced angular signature technique for cirrus cloud detection. *IEEE Trans. Geosci. Remote Sens.*, **32**, 890-896.
- Diner, D.J., C.J. Bruegge, J.V. Martonchik, G.W. Bothwell, E.D. Danielson, V.G. Ford, L.E. Hovland, K.L. Jones, and M.L. White, 1991: A Multi-angle Imaging Spectroradiometer for terrestrial remote sensing from the Earth Observing System. *Int. J. Imaging Sys. Technol.*, **3**, 92-107.
- Dixon, R. K., S. Brown, R.A. Houghton, A.M. Solomon, M.C. Trexler, and J. Wisniewski, 1994: Carbon pools and flux of global forest ecosystems. *Science*, **263**, 185-190.
- Dong, X., P. Minnis, G.G. Mace, E.E. Clothiaux, C. Long, and S. Sun-Mack, 1999: Validation of CERES/VIRS cloud properties using ground-based measurements obtained at the DOE ARM sites. *Proc. AMS 10th Conf. Atmos. Rad.*, Madison, WI, June 28-July 2, 29-32.
- Dozier, J., 1984: Snow reflectance from Landsat-4 thematic mapper. *IEEE Trans. Geosci. Remote Sens.*, **22**, 323-328.
- Dozier, J., 1989: Spectral signature of alpine snow cover from the Landsat Thematic Mapper. *Remote Sens. Environ.*, **28**, 9-22.
- Dubovik, O., A. Smirnov, B.N. Holben, M.D. King, Y.J. Kaufman, T.F. Eck, and I. Slutsker, 2000: Accuracy assessments of aerosol optical properties retrieved from Aerosol Robotic Network (AERONET) sun and sky radiance measurements. *J. Geophys. Res.*, **105** (D8), 9791-9806.
- Eddy, J.A., 1976: The Maunder Minimum. *Science*, **192**, 1189-1202.
- Edwards, T., R. Browning, J. Delderfield, D.J. Lee, K.A. Lidiard, R.S. Milborrow, P.H. McPherson, S.C. Peskett, G.M. Toplis, H.S. Taylor, I. Mason, G. Mason, A. Smith, and S. Stringer, 1990: The along track scanning radiometer—measurement of sea-surface temperature from ERS-1. *J. British Interplanetary Soc.*, **43**, 160.
- Eicken, H., H. Fischer, and P. Lemke, 1995: Effects of the snow cover on Antarctic sea ice and potential modulation of its response to climate change. *Ann. Glaciol.*, **21**, 369-376.
- Eppley, R.W., E. Stewart, M.R. Abbott, and U. Heyman, 1985: Estimating ocean primary production from satellite chlorophyll: Introduction to regional differences and statistics for the Southern California Bight. *J. Plank. Res.*, **7**, 57-70.
- Esaias, W.E., R.L. Iverson, and K. Turpie, 1999: Ocean province classification using ocean colour data: Observing biological signatures of variations in physical dynamics. *Global Change Biology*, **5**, 1-17.
- Evans, R.H., and H.R. Gordon, 1994: CZCS System Calibration: A retrospective examination. *J. Geophys. Res.*, **99C**, 7293-7307.
- Farrar, M.R., and E.A. Smith, 1992: Spatial resolution enhancement of terrestrial features using deconvolved SSM/I microwave brightness temperatures. *IEEE Trans. Geosci. Remote Sens.*, **30**, 349-355.
- Farrar, M.R., E.A. Smith, and X. Xiang, 1994: The impact of spatial resolution enhancement of SSM/I microwave brightness temperatures on rainfall retrieval algorithms. *J. Appl. Meteor.*, **33**, 313-333.
- Ferraro, R.R., 1997: SSM/I derived global rainfall estimates for climatological applications. *J. Geophys. Res.*, **102**, 16,715-16,735.
- Field, C.B., J.T. Randerson, and C.M. Malstrom, 1995: Global net primary production: Combining ecology and remote sensing. *Remote Sens. Environ.*, **51**, 74-88.
- Fitzwater, S.E., G.A. Knauer, and J.H. Martin, 1982: Metal contamination and its effect on primary production measurements. *Limn. Oceanog.*, **27**, 544-551.
- Fleming, H.F., M.D. Goldberg, and D.S. Crosby, 1986: Minimum variance simultaneous retrieval of temperature and water vapor from radiance measurements. *Proc. Second Conference on Satellite Meteorology*, Williamsburg, Amer. Meteor. Soc., 20-23.
- Forbes, J.M., D. Revelle, X. Zhang, and R.E. Markin, 1997: Longitude structure of the ionosphere F region from TOPEX/Poseidon and ground-based data during January 20-30, 1993, including the quasi 2-day oscillation. *J. Geophys. Res.-Space Phys.*, **102** (A4), 7293-7299.

- Foster, J.L., and A.T.C. Chang, 1993: Snow cover. In *Atlas of Satellite Observations Related to Global Change*, ed. by R.J. Gurney, J.L. Foster, and C.L. Parkinson, Cambridge University Press, Cambridge, U.K., 361-370.
- Foster, J.L., D.K. Hall, A.T.C. Chang, and A. Rango, 1984: An overview of passive microwave snow research and results. *Rev. Geophys.*, **22**, 165-178.
- Foukal, P.A., and J.L. Lean, 1988: Magnetic modulation of solar luminosity by photospheric activity. *Astrophys. J.*, **328**, 347.
- Foukal, P.A., and J.L. Lean, 1990: An empirical model of total solar irradiance variation between 1874 and 1988. *J. Science*, **246**, 556-558.
- Freilich, M.H., and P.G. Challenor, 1994: A new approach for determining fully empirical altimeter wind speed model functions. *J. Geophys. Res.*, **99**, 25,051-25,062.
- Freilich, M.H., and R.S. Dunbar, 1999: The accuracy of the NSCAT 1 vector winds: Comparisons with National Data Buoy Center buoys. *J. Geophys. Res.*, **104**, 11,231-11,246.
- Fu, L.-L., E.J. Christensen, C.A. Yamarone, M. Lefebvre, Y. Menard, M. Dorrer, and P. Escudier, 1994: TOPEX/Poseidon Mission Overview. *J. Geophys. Res.*, **99**, 24,369-24,381.
- Fu, Q., and K. Liou, 1993: Parameterization of the radiative properties of cirrus clouds. *J. Atmos. Sci.*, **50**, 2008-2025.
- Gao, B.C., and A.F.H. Goetz, 1990: Column atmospheric water vapor and vegetation liquid water retrievals from airborne imaging spectrometer data. *J. Geophys. Res.*, **95**, 3549-3564.
- Gao, B.C., A.F.H. Goetz, and W.J. Wiscombe, 1993a: Cirrus cloud detection from airborne imaging spectrometer data using the 1.38 micron water vapor band. *Geophys. Res. Lett.*, **4**, 301-304.
- Gao, B.C., K.D. Heidebrecht, and A.F.H. Goetz, 1993b: Derivation of scaled surface reflectances from AVIRIS data. *Remote Sens. Environ.*, **44**, 165-178.
- Gao, B.C., Y.J. Kaufman, W. Han, and W.J. Wiscombe, 1998: Correction of thin cirrus path radiance in the 0.4 - 1.0  $\mu\text{m}$  spectral region using the sensitive 1.375- $\mu\text{m}$  cirrus detecting channel. *J. Geophys. Res.*, **103**, 32,169-32,176.
- Gautier, C., and M. Landsfeld, 1997: Surface solar radiation flux and cloud radiative forcing for the Atmospheric Radiation Measurement (ARM) Southern Great Plain (SGP): A satellite, surface observations and radiative transfer model study. *Science*, **54**, 1289-1307.
- Gillespie, A.R., A.B. Kahle, and R.E. Walker, 1986: Color enhancement of highly correlated images. I. Decorrelation and HSI contrast stretches. *Remote Sens. Environ.*, **20**, 209-235.
- Gloersen P., and D.J. Cavalieri, 1986: Reduction of weather effects in the calculation of sea ice concentration from microwave radiances. *J. Geophys. Res.*, **91**, 3913-3919.
- Gloersen, P., W.J. Campbell, D.J. Cavalieri, J.C. Comiso, C.L. Parkinson, and H.J. Zwally, 1992: *Arctic and Antarctic Sea Ice, 1978-1987: Satellite Passive Microwave Observations and Analysis*, NASA Spec. Pub. 511, National Aeronautics and Space Administration, Washington, D.C., 290 pp.
- Goldberg, M.D., and L.M. McMillin, 1999: Methodology for deriving deep-layer temperatures from combined satellite infrared and microwave observations. *J. Climate*, **12**, 5-20.
- Goodberlet, M.A., C.T. Swift, and J.C. Wilkerson, 1989: Remote sensing of ocean surface winds with the SSM/I. *J. Geophys. Res.*, **94**, 14,547-14,555.
- Goodman, A.H., and A. Henderson-Sellers, 1988: Cloud detection analysis: A review of recent progress. *Atmos. Res.*, **21**, 203.
- Gordon, H.R., 1978: Removal of atmospheric effects from satellite imagery of the oceans. *Appl. Opt.*, **17**, 1631-1636.
- Gordon, H.R., 1987: Calibration requirements and methodology for remote sensors viewing the oceans in the visible. *Remote Sens. Environ.*, **22**, 103-126.
- Gordon, H.R., 1997: Atmospheric correction of ocean color imagery in the Earth Observing System era. *J. Geophys. Res.*, **102D**, 17,081-17,106.
- Gordon, H.R., and D.K. Clark, 1980: Atmospheric effects in the remote sensing of phytoplankton pigments. *Boundary-Layer Meteor.*, **18**, 300-313.

- Gordon, H.R., and D.K. Clark, 1981: Clear water radiances for atmospheric correction of coastal zone color scanner imagery. *Appl. Opt.*, **20** (24), 4175-4180.
- Gordon, H.R. and A.Y. Morel, 1983: *Remote Assessment of Ocean Color for Interpretation of Satellite Visible Imagery: A Review*, Springer-Verlag, New York, 114 pp.
- Gordon, H.R., and M. Wang, 1994: Retrieval of water-leaving radiance and aerosol optical thickness over the oceans with SeaWiFS: A preliminary algorithm. *Appl. Opt.*, **33**, 443-452.
- Gordon, H.R., D.K. Clark, J.L. Mueller, and W.A. Hovis, 1980: Phytoplankton pigments derived from the Nimbus-7 CZCS: Initial comparisons with surface measurements. *Science*, **210**, 63-66.
- Gordon, H.R., O.B. Brown, R.H. Evans, J.W. Brown, R.C. Smith, K.S. Baker, and D.K. Clark, 1988: A semi-analytic radiance model of ocean color. *J. Geophys. Res.*, **93**, 10,909-10,924.
- Gordon, H.R., T. Du, and T. Zhang, 1997: Remote sensing ocean color and aerosol properties: Resolving the issue of aerosol absorption. *Appl. Opt.*, **36**, 8670-8684.
- Goward, S.N., and A.S. Hope., 1989: Evapotranspiration from combined reflected solar and emitted terrestrial radiation: Preliminary FIFE results from AVHRR data. *Adv. Space Res.*, **9** (7), 239-249.
- Gower, F.J.R., and G.A. Borstad, 1990: Mapping of phytoplankton by solar-stimulated fluorescence using an imaging spectrometer. *Int. J. Remote Sens.*, **11**, 313-320.
- Goyet, C., and P.G. Brewer, 1993: Biochemical properties of the oceanic cycle. In *Modeling Oceanic Climate Interactions*, ed. by J. Willebrand, NATO Advanced Study Institute, **I11**, 271-297.
- Green, R.N., and B.A. Wielicki, 1995: Convolution of imager cloud properties with CERES footprint point spread function (Subsystem 4.4). *Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document, Volume III: Cloud Analyses and Radiance Inversions (Subsystem 4)*, NASA Ref. Pub. 1376, Vol. III, ed. by the CERES Science Team, 177-194.
- Green, R.N., B.A. Wielicki, J.A. Coakley, L.L. Stowe, and P.O'R. Hinton, 1995: CERES inversion to instantaneous TOA fluxes (Subsystem 4.5). *Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document, Volume III: Cloud Analyses and Radiance Inversions (Subsystem 4)*, NASA Ref. Pub. 1376, Vol. III, ed. by the CERES Science Team, 195-206.
- Green, R.O., and J.E. Conel, 1995: Movement of water vapor in the atmosphere measured by an imaging spectrometer at Rogers Dry Lake, CA. *Proc. Summaries of the Fifth Annual JPL Airborne Earth Science Workshop*, JPL Pub. 95-1, 1, 79-83.
- Greenstone, R., and M.D. King, 1999: *EOS Science Plan Executive Summary: The State of Science in the EOS Program*, NASA Goddard Space Flight Center, Greenbelt, MD, 64 pp.
- Gregg, W.W., and K.L. Carder, 1990: A simple solar irradiance model for cloudless maritime atmospheres. *Limn. Oceanogr.*, **35** (8), 1657-1675.
- Grody, N.C., 1976: Remote sensing of atmospheric water content from satellites using microwave radiometry. *IEEE Trans. Antennas Propagat.*, **AP-24**, 155-162.
- Grody, N.C., A. Gruber, and W.C. Shen, 1980: Atmospheric water content over the tropical Pacific derived from the Nimbus 6 scanning microwave spectrometer. *J. Appl. Meteor.*, **19**, 986-996.
- Groom, S.B., and P.M. Holligan, 1987: Remote sensing of coccolithophore blooms. *Adv. Space Res.*, **7**, 73-78.
- Gupta, S.K., W.L. Darnell, and A.C. Wilber, 1992: A parameterization for longwave surface radiation from satellite data: Recent improvements. *J. Appl. Meteor.*, **31**, 1361-1367.
- Gupta, S.K., W.L. Darnell, N.A. Ritchey, and A.C. Wilber, 1995: Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document. Volume III - Cloud Analyses and Determination of Improved Top of Atmosphere Fluxes (Subsystem 4), Subsystem 4.6.3 - An Algorithm for Longwave Surface Radiation Budget for Total Skies, NASA Ref. Pub. 1376, Vol. III, 235-242.

- Gustafson, G.B., R.G. Isaacs, R.P. d'Entremont, J.M. Sparrow, T.M. Hamill, C. Grassotti, D.W. Johnson, C.P. Sarkisian, D.C. Peduzzi, B.T. Pearson, V.D. Jakabchazy, J.S. Belfiore, and A.S. Lisa, 1994: Support of Environmental Requirements for Cloud Analysis and Archive (SERCAA): Algorithm descriptions. Phillips Laboratory Scientific Report No. 2, Hanscom Air Force Base, MA, 100 pp.
- Haines, B.J., and Y.E. Bar-Sever, 1998: Monitoring the TOPEX microwave radiometer with GPS: Stability of columnar water vapor measurements. *Geophys. Res. Lett.*, **25**, 3563-3566.
- Häkkinen, S., 1995: Seasonal simulation of the Southern Ocean coupled ice-ocean system. *J. Geophys. Res.*, **100**, 22,733-22,748.
- Hall, D.K., G.A. Riggs, and V.V. Salomonson, 1995: Development of methods for mapping global snow cover using Moderate Resolution Imaging Spectroradiometer (MODIS) data. *Remote Sens. Environ.*, **54**, 127-140.
- Halpern, D., A. Hollingsworth, and F.J. Wentz, 1994: ECMWF and SSM/I global surface wind speeds. *J. Atmos. Oceanic Techno.*, **11**, 779-788.
- Hansen, J., A. Lacis, R. Ruedy, M. Sato, and H. Wilson, 1993: How sensitive is the world's climate? *Research and Exploration*, **9**, 143-158.
- Hara, T., E.J. Bock, N.M. Frew, and W.R. McGillis, 1995: Relationship between air-sea gas transfer velocity and surface roughness. In *Air-Water Gas Transfer*, ed. by B. Jahne and E.C. Monahan, AEON Verlag & Studio, Hanau, 611-616.
- Harrison, E.F., D.R. Brooks, P. Minnis, B.A. Wielicki, W.F. Staylor, G.G. Gibson, D.F. Young, F.M. Denn, and the ERBE Science Team, 1988: First estimates of the diurnal variation of longwave radiation from the multiple-satellite Earth Radiation Budget Experiment (ERBE). *Bull. Amer. Meteor. Soc.*, **69**, 1144-1151.
- Harrison, E.F., P. Minnis, B.R. Barkstrom, B.A., Wielicki, G.G. Gibson, F.M. Denn, and D.F. Young, 1990a: Seasonal variation of the diurnal cycles of Earth's radiation budget determined from ERBE. *AMS 7th Conf. on Atmos. Radiation*, San Francisco, CA, July 23-27, 87-91.
- Harrison, E.F., P. Minnis, B.R. Barkstrom, V. Ramanathan, R.D. Cess, and G.G. Gibson, 1990b: Seasonal variation of cloud radiative forcing derived from the Earth Radiation Budget Experiment. *J. Geophys. Res.*, **95**, 18,687-18,703.
- Harrison, E.F., D.F. Young, P. Minnis, G.G. Gibson, R.D. Cess, V. Ramanathan, T.D. Murray, and D.J. Travers, 1995: Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document. Volume IV - Determination of Surface and Atmosphere Fluxes and Temporally and Spatially Averaged Products (Subsystems 5-12), Subsystem 10.0 - Monthly Regional TOA and Surface Radiation Budget, NASA Ref. Pub. 1376, Vol. IV, 139-156.
- Haskins, R.D., R.M. Goody, and L. Chen, 1997: A statistical method for testing a GCM with spectrally-resolved satellite data. *J. Geophys. Res.*, **102** (D14), 16,563-16,581.
- Hayden, C.M., 1988: GOES-VAS simultaneous temperature-moisture retrieval algorithm. *J. Appl. Meteor.*, **27**, 705-733.
- Hays, J.D., J. Imbrie, and N.J. Shackleton, 1976: Variations in the Earth's orbit: Pacemaker of the ice ages. *Science*, **194**, 1121-1132.
- Hickey, J.R., L.L. Stowe, H. Jacobowitz, P. Pellegrino, R.H. Maschoff, F. House, and T.H. Vonder Haar, 1980: Initial determinations from Nimbus 7 cavity radiometer measurements. *Science*, **208**, 281.
- Hofer, R.E., E.G. Njoku, and J.W. Waters, 1981: Microwave radiometric measurements of sea surface temperature from the SeaSat satellite: First results. *Science*, **212**, 1385-1387.
- Hoffman, L.H., W.L. Weaver, and J.F. Kibler, 1987: Calculation and accuracy of ERBE scanner measurement locations. NASA Tech. Paper 2670.
- Hofstadter, M., H. Aumann, E. Manning, S. Gaiser, C. Gautier, and S. Yang, 1999: AIRS Algorithm Theoretical Basis Document Level 1B Part 2: Visible/Near-Infrared Channels, version 2.1, available at <http://eospso.gsfc.nasa.gov/atbd/airstable.html>.
- Hoge, F.E., and R.N. Swift, 1986: Chlorophyll pigment concentration using spectral curvature algorithms: An evaluation of present and proposed satellite ocean color sensor bands. *Appl. Opt.*, **25**, 3677-3682.

- Hoge, F.E., and R.N. Swift, 1990: Photosynthetic accessory pigments: Evidence for the influence of phycoerythrin on the submarine light field. *Remote Sens. Environ.*, **34**, 19-35.
- Hoge, F.E., C.W. Wright, P.E. Lyon, R.N. Swift, and J.K. Yungel, 1999a: Satellite retrieval of inherent optical properties by inversion of an oceanic radiance model: A preliminary algorithm. *Applied Optics*, **38**, 495-504.
- Hoge, F.E., C.W. Wright, P.E. Lyon, R.N. Swift, and J.K. Yungel, 1999b: Satellite retrieval of the absorption coefficient of phytoplankton phycoerythrin pigment: Theory and feasibility status. *Applied Optics*, **38**, 7431-7441.
- Holben, B.N., E. Vermote, Y.J. Kaufman, D. Tanré, and V. Kalb, 1992: Aerosol retrieval over land from AVHRR data-application for atmospheric correction. *IEEE Trans. Geosci. Remote Sens.*, **30**, 212-222.
- Holben, B.N., T.F. Eck, I. Slutsker, D. Tanré, J.P. Buis, A. Setzer, E. Vermote, J.A. Reagan, Y.J. Kaufman, T. Nakajima, F. Lavenu, I. Jankowiak, and A. Smirnov, 1998: AERONET-A federated instrument network and data archive for aerosol characterization. *Remote Sens. Environ.*, **66** (1), 1-16.
- Holligan, P.M., M. Viollier, D.S. Harbour, P. Camus, and M. Champagne-Philippe, 1983: Satellite and ship studies of coccolithophore production along the continental shelf edge. *Nature*, **304**, 339-342.
- Hollinger, J.P., 1971: Passive microwave measurements of sea surface roughness. *IEEE Trans. Geosci. Electron.*, **GE-9**, 165-169.
- Holm-Hansen, O. and B. Riemann, 1978: Chlorophyll *a* determination: Improvements in methodology. *Oikos*, **30**, 438-477.
- Holm-Hansen, O., C.J. Lorenzen, R.W. Holmes, and J.D.H. Strickland, 1965: Fluorometric determination of chlorophyll. *J. Cons. Int. Explor. Mer.*, **30**, 3-15.
- Hong, Y., C. Kummerow, and W.S. Olson, 1999: Separation of convective/stratiform precipitation using microwave brightness temperature. *J. Appl. Meteor.*, **38**, 1195-1213.
- Houghton, J.T., F.W. Taylor, and C.D. Rodgers, 1984: *Remote Sounding of Atmospheres*. Cambridge University Press, Cambridge, UK, 343 pp.
- Houghton, R.A., R.D. Boone, J.R. Fruci, J.E. Hobbie, J.M. Melillio, C.A. Palm, B.J. Peterson, G.R. Shaver, G.M. Woodwell, B. Moore, D.L. Skole, and N. Myers, 1987: The flux of carbon from terrestrial ecosystems to the atmosphere in 1980 due to changes in land use: Geographic distribution of the global flux. *Tellus*, **39B**, 122-139.
- Hu, B., W. Lucht, X. Li, and A.H. Strahler, 1997: Validation of kernel-driven models for global modeling of bidirectional reflectance. *Remote Sens. Environ.*, **62**, 201-214.
- Hu, B., W. Lucht, and A.H. Strahler, 1999: The interrelationship of atmospheric correction of reflectances and surface BRDF retrieval: A sensitivity study. *IEEE Trans. Geosci. Remote Sens.*, **37**, 724-738.
- Hu, B., W. Lucht, A. Strahler, C. Schaaf, and M. Smith, 2000: Surface albedos and angle-corrected NDVI from AVHRR observations over South America. *Remote Sens. Env.*, **71**, 119-132.
- Huete, A., C. Justice, and H. Liu, 1994: Development of vegetation and soil indices for MODIS-EOS. *Remote Sens. Environ.*, **49**, 224- 234.
- Huete, A.R., H.Q. Liu, K. Batchily, and W. van Leeuwen, 1997: A comparison of vegetation indices over a global set of TM images for EOS-MODIS. *Remote Sens. Environ.*, **59**, 440-451.
- Huete, A.R., C.O. Justice, and W. van Leeuwen, 1999: MODIS Vegetation Index (MOD 13) Algorithm Theoretical Basis Document (ATBD-MOD-13), version 3, available at <http://eospso.gsfc.nasa.gov/atbd/modistables.html>.
- Imel, D., 1994: Evaluation of the TOPEX/POSEIDON dual-frequency ionosphere correction. *J. Geophys. Res.*, **99**, 24,895-24,906.
- Inamdar, A.K., and V. Ramanathan, 1994: Physics of greenhouse effect and convection in warm oceans. *J. Climate*, **7**, 715-731.
- Inamdar, A.K., and V. Ramanathan, 1995: Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document. Volume III - Cloud Analyses and Determination of Improved Top of Atmosphere Fluxes (Subsystem 4), Subsystem 4.6.2 - Estimation of Longwave Surface Radiation Budget From CERES, NASA Ref. Pub. 1376, Vol. III, 217-234.

- IPCC, 1996: Summary for policymakers. In *Climate Change 1995: The Science of Climate Change*, ed. by J.T. Houghton, L.G. Meira Filho, B.A. Callander, N. Harris, A. Kattenberg, and K. Maskell, Cambridge University Press, Cambridge, UK, 1-7.
- Iqbal, M., 1983: *An Introduction to Solar Radiation*. Academic Press, Toronto and New York, 390 pp.
- Iverson, R.L., W.E. Esaias, and K. Turpie, 2000: Ocean annual phytoplankton carbon and new production, and annual export production estimated with empirical equations and CZCS data. *Global Change Biology*, **6**, 57-72.
- Jacobs, S.S., and J.C. Comiso, 1997: A climate anomaly in the Amundsen and Bellingshausen Seas. *J. Climate*, **10**, 697-709.
- Janssen, M.A., ed., 1993: *Atmospheric Remote Sensing by Microwave Radiometry*, Chap. 1, John Wiley & Sons, New York, 572 pp.
- Jarecke, P.J., M.A. Folkman, and L.A. Darnton, 1991: Radiometric calibration plan for the clouds and the Earth's radiant energy system instruments. *Proc. SPIE*, **1493**, 244-254.
- Jedlovec, G.J., 1987: Determination of atmospheric moisture structure from high resolution MAMS radiance data. Ph.D. Thesis, University of Wisconsin, Madison, WI, 157 leaves.
- Justice, C.O., J.P. Malingreau, and A. Setzer 1993: Satellite remote sensing of fires: potential and limitation. In *Fire in the Environment: The ecological, atmospheric, and climatic importance of vegetation fires*, ed. by P.J. Crutzen and J.G. Goldammer, John Wiley & Sons, Chichester, 77-88.
- Justice, C.O., E. Vermote, J.R.G. Townshend, R. DeFries, D.P. Roy, D.K. Hall, V.V. Salomonson, J.L. Privette, G. Riggs, A. Strahler, W. Lucht, R.B. Myneni, Y. Knyazikhin, S.W. Running, R.R. Nemani, Z. Wan, A.R. Huete, W. van Leeuwen, R.E. Wolfe, L. Giglio, J.-P. Muller, P. Lewis, and M.J. Barnsley, 1998: The Moderate Resolution Imaging Spectroradiometer (MODIS): Land remote sensing for global change research. *IEEE Trans. Geosci. Remote Sens.*, **36**, 1228-1249.
- Kaufman, Y.J., and B.C. Gao, 1992: Remote sensing of water vapor in the near IR from EOS/MODIS. *IEEE Trans. Geosci. Remote Sens.*, **30**, 871-884.
- Kaufman, Y.J., and L.A. Remer, 1994: Remote sensing of vegetation in the mid-IR: The 3.75  $\mu$ m channels. *IEEE Trans. Geosci. Remote Sens.*, **32**, 672-683.
- Kaufman, Y.J., and C. Sondra, 1988: Algorithm for automatic atmospheric corrections to visible and near-IR satellite imagery. *Int. J. Remote Sens.*, **9**, 1357-1381.
- Kaufman, Y.J., C.J. Tucker, and I. Fung, 1990: Remote sensing of biomass burning in the tropics. *J. Geophys. Res.*, **95** (D7), 9927-9939.
- Kaufman, Y.J., D. Tanré, H.R. Gordon, T. Nakajima, J. Lenoble, R. Frouin, H. Grassl, B.M. Herman, M.D. King, and P.M. Teillet, 1997a: Passive remote sensing of tropospheric aerosol and atmospheric correction for the aerosol effect. *J. Geophys. Res.*, **102** (D14), 16,815-16,830.
- Kaufman, Y.J., D. Tanré, L. Remer, E. Vermote, A. Chu, and B.N. Holben, 1997b: Operational remote sensing of tropospheric aerosol over land from EOS-moderate resolution imaging spectroradiometer. *J. Geophys. Res.*, **102** (D14), 17,051-17,067.
- Kaufman Y.J., C.O. Justice, L.P. Flynn, J.D. Kendall, E.M. Prins, D.E. Ward, P. Menzel, and A.W. Setzer, 1998a: Potential global fire monitoring from EOS-MODIS. *J. Geophys. Res.*, **103**, 32,215-32,238.
- Kaufman, Y.J., R.G. Kleidman, and M.D. King, 1998b: SCAR-B fires in the tropics: Properties and remote sensing from EOS-MODIS. *J. Geophys. Res.*, **103** (D24), 31,955-31,968.
- Kiefer, D.A., and R.A. Reynolds, 1992: Advances in understanding phytoplankton fluorescence and photosynthesis. In *Primary Productivity and Biogeochemical Cycles in the Sea*, ed. by P.G. Falkowski and A.D. Woodhead, Plenum, New York, 155-174.
- King, M.D., 1987: Determination of the scaled optical thickness of clouds from reflected solar radiation measurements. *J. Atmos. Sci.*, **44**, 1734-1751.
- King, M.D., ed., 1999: *EOS Science Plan: The State of Science in the EOS Program*, NASA Goddard Space Flight Center, Greenbelt, MD, 397 pp.
- King, M.D., and R. Greenstone, 1999: *1999 EOS Reference Handbook: A Guide to NASA's Earth Science Enterprise and the Earth Observing System*, NASA Goddard Space Flight Center, Greenbelt, MD, 361 pp.

- King, M.D., Y.J. Kaufman, W.P. Menzel, and D. Tanré, 1992: Remote sensing of cloud, aerosol, and water vapor properties from the Moderate Resolution Imaging Spectroradiometer (MODIS). *IEEE Trans. Geosci. Remote Sens.*, **30**, 2-27.
- King, M.D., W.P. Menzel, P.S. Grant, J.S. Myers, G.T. Arnold, S.E. Platnick, L.E. Gumley, S.C. Tsay, C.C. Moeller, M. Fitzgerald, K.S. Brown, and F.G. Osterwisch, 1996: Airborne scanning spectrometer for remote sensing of cloud, aerosol, water vapor and surface properties. *J. Atmos. Oceanic Technol.*, **13**, 777-794.
- King, M.D., S.C. Tsay, S.A. Ackerman and N.F. Larsen, 1998: Discriminating heavy aerosol, clouds, and fires during SCAR-B: Application of airborne multispectral MAS data. *J. Geophys. Res.*, **103**, 31,989-32,000.
- King, M.D., Y.J. Kaufman, D. Tanré, and T. Nakajima, 1999: Remote sensing of tropospheric aerosols from space: Past, present, and future. *Bull. Amer. Meteor. Soc.*, **80**, 2229-2260.
- Kleepsies, T.J., and L.M. McMillan, 1984: Physical retrieval of precipitable water using the split window technique. *Proc. Conf. on Satellite Meteorology/Remote Sensing and Applications*, Amer. Meteor. Soc., Boston, MA, 55-57.
- Klein, A.G., and D.K. Hall, 2000: Snow albedo determination using the NASA MODIS instrument. *Proc. 56th Annual Eastern Snow Conference*, 2-4 June 1999, Fredericton, New Brunswick, Canada, 77-85.
- Klein, A.G., D.K. Hall, and G.A. Riggs, 1998: Improving snow-cover mapping in forests through the use of a canopy reflectance model. *Hydrological Processes*, **12** (10-11), 1723-1744.
- Knap, W.H., and J. Oerlemans, 1996: The surface albedo of the Greenland ice sheet: satellite-derived and in situ measurements in the Søndre Strømfjord area during the 1991 melt season. *J. Glaciol.*, **42** (141), 364-374.
- Knyazikhin, Y., J.V. Martonchik, R.B. Myneni, D.J. Diner, and S.W. Running, 1998a: Synergistic algorithm for estimating vegetation canopy leaf area index and fraction of absorbed photosynthetically active radiation from MODIS and MISR data. *J. Geophys. Res.*, **103**, 32,257-32,275.
- Knyazikhin, Y., J.V. Martonchik, D.J. Diner, R.B. Myneni, M.M. Verstraete, B. Pinty, and N. Gobron, 1998b: Estimation of vegetation canopy leaf area index and fraction of absorbed photosynthetically active radiation from atmosphere-corrected MISR data. *J. Geophys. Res.*, **103**, 32,239-32,256.
- Kratz, D.P., and Z. Li, 1995: Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document. Volume III - Cloud Analyses and Determination of Improved Top of Atmosphere Fluxes (Subsystem 4), Subsystem 4.6.1 - Estimation of Longwave Surface Radiation Budget from CERES, NASA Ref. Pub. 1376, Vol. III, 213-216.
- Krummel, J.R., R.H. Gardner, G. Sugihara, R.V. O'Neill, and P.R. Coleman, 1987: Landscape patterns in a disturbed environment. *Oikos*, **48**, 321-324.
- Kummerow, C., W.S. Olson, and L. Giglio, 1996: A simplified scheme for obtaining precipitation and vertical hydrometeor profiles from passive microwave sensors. *IEEE Trans. Geosci. Remote Sens.*, **34**, 1213-1232.
- Kummerow, C., W. Barnes, T. Kozu, J. Shiue, and J. Simpson, 1998: The Tropical Rainfall Measuring Mission (TRMM) sensor package. *J. Atmos. Oceanic Technol.*, **15**, 808-816.
- Kuo, C.C., D.H. Staelin, and P.W. Rosenkranz, 1994: Statistical iterative scheme for estimating atmospheric relative humidity profiles. *IEEE Trans. Geosci. Remote Sens.*, **32**, 254-260.
- Kyle, H.L., R.J. Curran, W.L. Barnes, and D. Escoe, 1978: A cloud physics radiometer. Third Conference on Atmospheric Radiation, Davis, CA, 107-109.
- Lakshmi, V, J. Susskind, and B.J. Choudhury, 1998: Determination of land surface skin temperatures and surface air temperature and humidity from TOVS HIRS2/MSU data. *Adv. Space Res.*, **22** (5), 629-636.
- Lambin, E.F., and A.H. Strahler, 1994a: Change-vector analysis in multitemporal space: A tool to detect and categorize land-cover change processes using high temporal-resolution satellite data. *Remote Sens. Environ.*, **48**, 231-244.
- Lambin, E.F., and A.H. Strahler, 1994b: Indicators of land-cover change for change-vector analysis in multitemporal space at coarse spatial scales. *Int. J. Remote Sens.*, **15**, 2099-2119.

- Lambigtsen, B., 1996: AIRS Algorithm Theoretical Basis Document L1B Part 2: Microwave Instruments, version 1.2, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, California, 46 pp.
- Ledley, T.S., 1991: Snow on sea ice: Competing effects in shaping climate. *J. Geophys. Res.*, **96**, 17,195-17,208.
- Lee, Z.P., K.L. Carder, T.G. Peacock, C.O. Davis, and J.L. Mueller, 1996: Method to derive ocean absorption coefficients from remote sensing reflectance. *Appl. Opt.*, **35** (3), 453-462.
- Lee III, R.B., M.A. Gibson, R.S. Wilson, and S. Thomas, 1995: Long-term total solar irradiance variability during sunspot cycle 22. *J. Geophys. Res.*, **100**, 1667-1675.
- Lee III, R.B., B.R. Barkstrom, G.L. Smith, J.E. Cooper, L.P. Kopia, and R.W. Lawrence, 1996: The Clouds and Earth's Radiant Energy System (CERES) sensors and preflight calibration plans. *J. Atmos. Oceanic Technol.*, **12**, 300-313.
- Letelier, R.M., M.R. Abbott, and D.M. Karl, 1997: Chlorophyll natural fluorescence response to upwelling events in the Southern Ocean. *Geophys. Res. Lett.*, **24**, 409-412.
- Levine, J.S., ed., 1991: *Global Biomass Burning*, MIT Press, Cambridge, MA, 569 pp.
- Li, X., A. H. Strahler and C. E. Woodcock, 1995: A hybrid geometric optical-radiative transfer approach for modeling albedo and directional reflectance of discontinuous canopies. *IEEE Trans. Geosci. Remote Sens.*, **33**, 466-480.
- Li, Z., and H. Leighton, 1993: Global climatologies of solar radiation budgets at the surface and in the atmosphere from 5 years of ERBE data. *J. Geophys. Res.*, **98**, 4919-4930.
- Li, Z., H.G. Leighton, K. Masuda, and T. Takashima, 1993: Estimation of SW flux absorbed at the surface from TOA reflected flux. *J. Climate*, **6**, 317-330.
- Liang, S., A.H. Strahler, and C.W. Walthall, 1999: Retrieval of land surface albedo from satellite observations: A simulation study. *J. Appl. Meteorol.*, **38**, 712-725.
- Liou, K.-N., 1992: *Radiation and Cloud Processes in the Atmosphere*, Oxford University Press, Oxford, UK, 487 pp.
- Lipes, R.G., R.L. Bernstein, V.J. Cardone, K.B. Katsaros, E.G. Njoku, A.L. Riley, D.B. Ross, C.T. Swift, and F.J. Wentz, 1979: SEASAT scanning multichannel microwave radiometer: Results of the Gulf of Alaska workshop. *Science*, **204**, 1415-1417.
- Liu, G., and J. Curry, 1993: Determination of characteristic features of cloud liquid water from satellite microwave measurements. *J. Geophys. Res.*, **98**, 5069-5092.
- Liu, W.T., W. Tang, and F.J. Wentz, 1992: Precipitable water and surface humidity over global oceans from SSM/I and ECMWF. *J. Geophys. Res.*, **97**, 2251-2264.
- Llewellyn-Jones, D.T., P.J. Minnett, R.W. Saunders, and A.M. Zavody, 1984: Satellite multichannel infrared measurements of sea surface temperature of the N.E. Atlantic Ocean using AVHRR/2. *Quart. J. Roy. Meteor. Soc.*, **110**, 613-631.
- Lorenzen, C.J., and S.W. Jeffrey, 1980: Determination of chlorophyll in sea water, UNESCO Tech. Paper. *Marine Science*, No. 35, 20 pp.
- Los, S.O., C.O. Justice, and C.J. Tucker, 1994: A global 1° by 1° NDVI data set for climate studies derived from the GIMMS continental NDVI data. *Int. J. Remote Sens.*, **15**, 3493-3518.
- Lucht, W., 1998: Expected retrieval accuracies of bi-directional reflectance and albedo from EOS-MODIS and MISR angular sampling. *J. Geophys. Res.*, **103**, 8763-8778.
- Lucht, W., and P. Lewis, 2000: Theoretical noise sensitivity of BRDF and albedo retrieval from the EOS-MODIS and MISR sensors with respect to angular sampling. *Int. J. Remote Sens.*, **21** (1), 81-98.
- Lucht, W., C.B. Schaaf, and A.H. Strahler, 2000: An algorithm for the retrieval of albedo from space using semiempirical BRDF models. *IEEE Trans. Geosci. Remote Sens.*, **38** (2), 977-998.
- Ma, X.L., W.L. Smith, and H.M. Woolf, 1984: Total ozone from NOAA satellites—A physical model for obtaining observations with high spatial resolution. *J. Climate Appl. Meteorol.*, **23**, 1309-1314.

- Markus, T., 1999: Results from an ECMWF-SSM/I forced mixed layer model of the Southern Ocean. *J. Geophys. Res.*, **104**, 15,603-15,620.
- Markus, T., and D.J. Cavalieri, 1998: Snow depth distribution over sea ice in the Southern Ocean from satellite passive microwave data. In *Antarctic Sea Ice: Physical Processes, Interactions and Variability*, Antarctic Research Series, Volume 74, American Geophysical Union, Washington, DC, 19-39.
- Markus, T., and D.J. Cavalieri, 2000: An enhancement of the NASA Team sea ice algorithm. *IEEE Trans. Geosci. Remote Sens.*, **38** (3), 1387-1398.
- McClain, E.P., W.G. Pichel, C.C. Walton, 1985: Comparative performance of AVHRR-based multichannel sea surface temperatures. *J. Geophys. Res.*, **90** (C6), 11,587-11,601.
- McMillin, L.M., L.J. Crone, M.D. Goldberg, and T.J. Kleespies, 1995: Atmospheric transmittance of an absorbing gas. OPTRAN: a computationally fast and accurate transmittance model for absorbing gases with fixed and variable mixing ratios at variable viewing angles. *Appl. Opt.*, **34** (N27), 6269-6274.
- Mehta, A., and J. Susskind, 1999: Outgoing longwave radiation from the TOVS Pathfinder Path A Data Set. *J. Geophys. Res.*, **104** (D10), 12,193.
- Ménard, Y., L-L. Fu, P. Escudier, and G. Kunstmann, 2000: Cruising the ocean from space with Jason-1 in the 2000s. *EOS, Trans. Amer. Geophys. Union*, in press.
- Minnett, P.J., 1991: Consequences of sea surface temperature variability on the validation and applications of satellite measurements. *J. Geophys. Res.*, **96**, 18,475-18,489.
- Minnett, P.J., 1995: Sea surface temperature measurements from the Along-Track Scanning Radiometer on ERS-1. In *Oceanographic Applications of Remote Sensing*, ed. by M. Ikeda and F. Dobson, CRC Press Inc., Boca Raton, FL, 131-143.
- Minnis, P., and E.F. Harrison, 1984: Diurnal variability of regional cloud and clear-sky radiative parameters derived from GOES data, Part III: November 1978 radiative parameters. *J. Climate Appl. Meteor.*, **23**, 1033-1051.
- Minnis, P., D.P. Kratz, J.A. Coakley, Jr., M.D. King, R. Arduini, D.P. Garber, P.W. Heck, S. Mayor, W.L. Smith, Jr., and D.F. Young, 1995: Cloud optical property retrieval (Subsystem 4.3). *Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document, Volume III: Cloud Analyses and Radiance Inversions (Subsystem 4)*, NASA Ref. Pub. 1376, Vol. III, ed. by the CERES Science Team, 135-176.
- Minnis, P., D.P. Garber, D.F. Young, R.F. Arduini, and Y. Takano, 1998: Parameterization of reflectance and effective emittance for satellite remote sensing of cloud properties. *J. Atmos. Sci.*, **55**, 3313-3339.
- Minnis, P., D.F. Young, B.A. Wielicki, P.W. Heck, S. Sun-Mack, and T.D. Murray, 1999: Cloud properties Derived from VIRS for CERES. *Proc. AMS 10th Conf. Atmos. Rad.*, Madison, WI, June 28-July 2, 21-24.
- Mognard, N.M., 1984: Swell in the Pacific Ocean observed by Seasat radar altimeter. *Mar. Geodesy*, **8**, 183-209.
- Mognard, N.M., and B. Lago, 1988: The computation of wind speed and wave heights from Geos 3 data. *J. Geophys. Res.*, **93**, 2285-2302.
- Monteith, J.L., 1972: Solar radiation and productivity in tropical ecosystems. *J. Appl. Ecology*, **9**, 747-766.
- Moody, A., and C. E. Woodcock, 1995: The influence of scale and the spatial characteristics of landscapes on land-cover mapping using remote sensing. *Landscape Ecology*, **10**, 363-379.
- Morel, A., and J.M. Andre, 1991: Pigment distribution and primary production in the Western Mediterranean as derived and modeled from Coastal Zone Color Scanner observations. *J. Geophys. Res.*, **96**, 12,685-12,698.
- Myneni, R.B., C.D. Keeling, C.J. Tucker, G. Asrar, R.R. Nemani, 1997a: Increased plant growth in the northern high latitudes from 1981 to 1991. *Nature*, **386**, 698-702.
- Myneni, R.B., R.R. Nemani, and S.W. Running, 1997b: Estimation of global leaf area index and absorbed PAR using radiative transfer model. *IEEE Trans. Geosci. Remote Sens.*, **35**, 1380-1393.

- Naderi, F.M., M.H. Freilich, and D.G. Long, 1991: Spaceborne radar measurement of wind velocity over the ocean—An overview of the NSCAT scatterometer system. *Proc. IEEE*, **79**, 850-866.
- Nakajima, T.Y., and T. Nakajima, 1995: Wide-area determination of cloud microphysical properties from NOAA AVHRR measurements for FIRE and ASTEX regions. *J. Atmos. Sci.*, **52**, 4043-4059.
- Nemani, R.R., and S.W. Running, 1989: Estimation of regional surface resistance to evapotranspiration from NDVI and thermal-IR AVHRR data. *J. Appl. Meteor.*, **28** (4), 276-284.
- Nemani, R.R., and S.W. Running, 1995: Satellite monitoring of global land-cover changes and their impact on climate. *Climatic Change*, **31**, 395-413.
- Nemani, R.R., L. Pierce, S. Running, and S. Goward, 1993: Developing satellite-derived estimates of surface moisture status. *J. Appl. Meteor.*, **32** (3), 548-557.
- Nerem, R.S., D.P. Chambers, E.W. Leuliette, G.T. Mitchum, and B.S. Giese, 1999: Variation in global mean sea level associated with the 1997-1998 ENSO event: Implications for measuring long-term sea level change. *Geophys. Res. Lett.*, **26**, 3005-3008.
- Nilsson, M., 1996: Estimation of tree heights and stand volume using an airborne lidar system. *Remote Sens. Environ.*, **56**, 1-7.
- Njoku, E., 1994: Surface temperature estimation over land using satellite microwave radiometry. In *Passive Microwave Remote Sensing of Land-Atmosphere Interactions*, ed. by B. Choudhury, Y. Kerr, E. Njoku, and P. Pampaloni, VSP Press, Utrecht, The Netherlands, 509-530.
- Njoku, E.G., and O.B. Brown, 1993: Sea surface temperature. In *Atlas of Satellite Observations Related to Global Change*, ed. by R.J. Gurney, J.L. Foster, and C.L. Parkinson, Cambridge Univ. Press, Cambridge, UK, 237-249.
- Njoku, E.G., and D. Entekhabi, 1996: Passive microwave remote sensing of soil moisture. *J. Hydrology*, **184**, 101-129.
- Njoku, E., and L. Li, 1999: Retrieval of land surface parameters using passive microwave measurements at 6 to 18 GHz. *IEEE Trans. Geosci. Remote Sens.*, **37**, 79-93.
- Nordberg, W., J. Conaway, D.B. Ross, and T.T. Wilheit, 1971: Measurement of microwave emission from a foam covered wind driven sea. *J. Atmos. Sci.*, **38**, 429-433.
- NSIDC, The National Snow and Ice Data Center DAAC, 1996: DMSP SSM/I Brightness Temperature and Sea Ice Concentration Grids for the Polar Regions, User's Guide, CIRES, University of Colorado, Boulder, CO, second revised edition.
- Oliver, C.D., and B.C. Larson, 1990: *Forest Stand Dynamics*, McGraw Hill, New York, 520 pp.
- Olson, W., C.D. Kummerow, Y. Hong, and W.K. Tao, 1999: Atmospheric latent heating distributions in the tropics derived from satellite passive microwave radiometer measurements. *J. Appl. Meteor.*, **38**, 633-664.
- Palmer, M.W., 1988: Fractal geometry: A tool for describing spatial patterns of plant communities. *Vegetatio*, **75**, 91-102.
- Paltridge, G.W., and C.M.R. Platt, 1976: *Radiative Processes in Meteorology and Climatology*, Elsevier, Amsterdam, 318 pp.
- Parker, D.E., C.K. Folland, and M. Jackson, 1995: Marine surface temperature: Observed variations and data requirements. *Climate Change*, **31**, 559-600.
- Parkinson, C.L., 1997: *Earth from Above: Using Color-Coded Satellite Images to Examine the Global Environment*, University Science Books, Sausalito, California, 176 pp.
- Parkinson, C.L., J.C. Comiso, H.J. Zwally, D.J. Cavalieri, P. Gloersen, and W.J. Campbell, 1987: *Arctic Sea Ice, 1973-1976: Satellite Passive-Microwave Observations*, NASA Spec. Pub. 489, National Aeronautics and Space Administration, Washington, D.C., 296 pp.
- Penner, J.E., R.E. Dickinson, C.A. O'Neill, 1992: Effects of aerosol from biomass burning on the global radiation budget. *Science*, **256**, 1432-1434.
- Pierson, W.J., 1990: Examples of, reasons for, and consequences of, the poor quality of wind data from ships for the marine boundary layer: Implications for remote sensing. *J. Geophys. Res.*, **95**, 13,313-13,340.

- Platnick, S., P.A. Durkee, K. Nielson, J.P. Taylor, S.C. Tsay, M.D. King, R.J. Ferek, P.V. Hobbs, and J.W. Rottman, 2000: The role of background cloud microphysics in the radiative formation of ship tracks. *J. Atmos. Sci.*, **57**, 2607-2624.
- Platt, T.C., C. Caverhill, and S. Sathyendranath, 1991: Basin scale estimates of oceanic primary production by remote sensing: The North Atlantic. *J. Geophys. Res.*, **96** (15), 147-149.
- Poe, G.A., 1990: Optimum interpolation of imaging microwave radiometer data. *IEEE Trans. Geosci. Remote Sens.*, **28**, 800-810.
- Prabhakara, C., B.J. Conrath, and R.A. Hanel, 1970: Remote sensing of atmospheric ozone using the 9.6 micron band. *J. Atmos. Sci.*, **26**, 689-697.
- Price, J.C., 1983: Estimating surface temperature from satellite thermal infrared data—a simple formulation for the atmospheric effect. *Remote Sens. Environ.*, **13**, 353-361.
- Price, J.C., 1984: Land surface temperature measurements from the split window channels of the NOAA 7 Advanced Very High Resolution Radiometer. *J. Geophys. Res.*, **89**, 7231-7237.
- Priestley, K.J., B.R. Barkstrom, R.B. Lee III, R.N. Green, S. Thomas, R.S. Wilson, P.C. Spence, J. Paden, D.K. Pandey, and A. Al-Hajjah, 2000: Post-launch radiometric validation of the Clouds and the Earth's Radiant Energy System (CERES) proto-flight model on the Tropical Rainfall Measuring Mission (TRMM) spacecraft through 1999. *J. Appl. Meteor.*, in press.
- Prince, S.D., and S.N. Goward, 1995: Global primary production: A remote sensing approach. *J. Biogeography*, **22**, 815-835.
- Ramanathan, V., 1986: Scientific use of surface radiation budget for climate studies. *Surface Radiation Budget for Climate Applications*, ed. by J.T. Suttles and G. Ohring, NASA Ref. Pub. 1169, Washington, DC, 58-86.
- Ramanathan, V., 1987: The role of Earth radiation budget studies in climate and general circulation research. *J. Geophys. Res.*, **92**, 4075-4095.
- Ramanathan, V., 1988: The greenhouse theory of climate change: a test by an inadvertent global experiment. *Science*, **240**, 293-298.
- Ramanathan V., R.D. Cess, E.F. Harrison, P. Minnis, B.R. Barkstrom, E. Ahmad, and D. Hartmann, 1989: Cloud-radiative forcing and climate: Results for the Earth Radiation Budget Experiment. *Science*, **243**, 57-63.
- Randall, D.A., Harshvardhan, D.A. Dazlich, and T.G. Corsetti, 1989: Interactions among radiation, convection, and large-scale dynamics in a general circulation model. *J. Atmos. Sci.*, **46**, 1943-1970.
- Rao, C.R.N., L.L. Stowe, and E.P. McClain, 1989: Remote sensing of aerosols over the oceans using AVHRR data: Theory, practice, and applications. *Int. J. Remote Sens.*, **10**, 743-749.
- Remer, L.A., and Y.J. Kaufman, 1998: Dynamic aerosol model: Urban/industrial aerosol. *J. Geophys. Res.*, **103** (D12), 13,859-13,871.
- Remer, L.A., Y.J. Kaufman and B.N. Holben, 1996: The size distribution of ambient aerosol particles: Smoke vs. urban/industrial aerosol. In *Global Biomass Burning*, ed. by J. S. Levine, The MIT Press, Cambridge, MA, 519-530.
- Remer, L.A., S. Gassó, D.A. Hegg, Y.J. Kaufman, and B.N. Holben, 1997: Urban/industrial aerosol: Ground-based sun/sky radiometer and airborne in situ measurements. *J. Geophys. Res.*, **102** (D14), 16,849-16,859.
- Remer, L.A., Y.J. Kaufman, B.N. Holben, A.M. Thompson, and D. McNamara, 1998: Biomass burning aerosol size distribution and modeled optical properties. *J. Geophys. Res.*, **103** (D24), 31,879-31,891.
- Rencz, A., ed., 1999: *Remote Sensing for the Earth Sciences*. Volume 3 of the *Manual of Remote Sensing*, Third Edition, ed. by R.A. Ryerson, John Wiley & Sons, New York, 707 pp.
- Reynolds, R.W., and T.M. Smith, 1994: Improved global sea surface temperature analyses using optimum interpolation. *J. Climate*, **7**, 929-948.
- Robinson, J.M., 1991: Fire from space: Global fire evaluation using infrared remote sensing. *Int. J. Remote Sens.*, **12** (1), 3-24.
- Robinson, W.D., C. Kummerow, and W.S. Olson, 1992: A technique for enhancing and matching the resolution of microwave measurements from the SSM/I instrument. *IEEE Trans. Geosci. Remote Sens.*, **30**, 419-429.

- Rosenkranz, P.W., 1995: A rapid atmospheric transmittance algorithm for microwave sounding channels. *IEEE Trans. Geosci. Remote Sens.*, **33**, 1135-1140.
- Rosenkranz, P.W., 1998: Water vapor microwave continuum absorption: A comparison of measurements and models. *Radio Sci.*, **33**, 919-928.
- Rossow, W.B., and L.C. Garder, 1993: Cloud detection using satellite measurements of infrared and visible radiances for ISCCP. *J. Climate*, **6**, 2341-2369.
- Ruf, C.S., S.J. Keihm, B. Subramanya, and M.A. Janssen, 1994: TOPEX/POSEIDON microwave radiometer performance and calibration. *J. Geophys. Res.*, **99**, 24,915-24,926.
- Rufenach, C.L., and W.R. Alpers, 1978: Measurement of ocean wave heights using the Geos 3 altimeter. *J. Geophys. Res.*, **83**, 5001-5018.
- Ruimy, A., B. Saugier, and G. Dedieu, 1994: Methodology for the estimation of terrestrial net primary production from remotely sensed data. *J. Geophys. Res.*, **99** (D3), 5263-5283.
- Running, S.W., 1990: Estimating terrestrial primary productivity by combining remote sensing and ecosystem simulation. In *Remote Sensing of Biosphere Functioning*, ed. by R. Hobbs and H. Mooney, New York: Springer-Verlag, 65-86.
- Running, S.W., R.R. Nemani, D.L. Peterson, L.E. Band, D.F. Potts, L.L. Pierce, and M.A. Spanner, 1989: Mapping regional forest evapotranspiration and photosynthesis by coupling satellite data with ecosystem simulation. *Ecology*, **70**, 1090-1101.
- Running, S.W., C. Justice, V. Salmonson, D. Hall, J. Barker, Y. Kaufmann, A. Strahler, A. Huete, J-P. Muller, V. Vanderbilt, Z. Wan, P. Teillet, and D. Carnegie, 1994: Terrestrial remote sensing science and algorithms planned for EOS/MODIS. *Int. J. Remote Sens.*, **15**, 3587-3620.
- Running, S.W., T.R. Loveland, L.L. Pierce, R.R. Nemani, and E.R. Hunt, 1995: A remote sensing based vegetation classification logic for global land cover analysis. *Remote Sens. Environ.*, **51**, 39-48.
- Salisbury, J.W., and D.M. D'Aria, 1992: Emissivity of terrestrial materials in the 8-14 mm atmospheric window. *Remote Sens. Environ.*, **42**, 83-106.
- Salomonson, V.V., D.K. Hall, and J.Y.L. Chien, 1995: Use of passive microwave and optical data for large-scale snow-cover mapping. *Proc. Second Topical Symposium on Combined Optical-Microwave Earth and Atmospheric Sensing*, 3-6 April 1995, Atlanta, GA, 35-37.
- Sarmiento, J.L., J.R. Toggweiler, and R. Najjar, 1988: Ocean carbon-cycle dynamics and atmospheric CO<sub>2</sub>. *Phil. Trans. Roy. Soc. Lond. A*, **325**, 3-21.
- Saunders, R.W., and K.T. Kriebel, 1988: An improved method for detecting clear-sky and cloud radiances for AVHRR data. *Int. J. Remote Sens.*, **9**, 123-150.
- Schluessel, P., and H. Luthardt, 1991: Surface wind speeds over the North Sea from Special Sensor Microwave/Imager Observations. *J. Geophys. Res.*, **96**, 4845-4853.
- Schluessel, P., W.J. Emery, H. Grassl, and T. Mammen, 1990: On the bulk-skin temperature difference and its impact on satellite remote sensing of sea surface temperatures. *J. Geophys. Res.*, **95**, 13,341-13,356.
- Schubert, S.D., R.B. Rood, and J. Pfaendtner, 1993: An assimilated dataset for earth science applications. *Bull. Amer. Meteor. Soc.*, **74**, 2331-2342.
- Sellers, P.J., 1987: Canopy reflectance, photosynthesis and transpiration. *Int. J. Remote Sens.*, **6**, 1335-1372.
- Shapiro, M.A., A.J. Krueger, and P.J. Kennedy, 1982: Nowcasting the position and intensity of jet streams using a satellite borne total ozone mapping spectrometer. In *Nowcasting*, ed. by K. A. Browning, Academic Press, London, UK, 137-145.
- Shinell, D., D. Rind, and P. Lonergan, 1998: Increased polar ozone losses and delayed eventual recovery owing to increasing green-house gas concentrations. *Nature*, **392**, 589.
- Sikes, S., and V. Fabry, 1994: Photosynthesis, CaCO<sub>3</sub> deposition, coccolithophorids and the global carbon cycle. In *Photosynthetic Carbon Metabolism and Regulation of Atmospheric CO<sub>2</sub> and O<sub>2</sub>*, ed. by N.E. Tolbert and J. Preiss, Oxford University Press, London, 217-233.

- Slater, P.N., S.F. Biggar, R.G. Holm, R.D. Jackson, Y. Mao, M.S. Moran, J.M. Palmer, and B. Yuan, 1987: Reflectance-based and radiance-based methods for the in-flight absolute calibration of multi-spectral sensors. *Remote Sens. Environ.*, **22**, 11-37.
- Smith, A.H., R.W. Saunders, and A.M. Zavody, 1994: The validation of ATSR using aircraft radiometer data over the tropical Atlantic. *J. Atmos. Oceanic Technol.*, **11**, 789-800.
- Smith, E.A. and 26 others, 1998: Results of WetNet PIP-2 Project. *J. Atmos. Sci.*, **55**, 1483-1536.
- Smith, G.L., R.N. Green, E. Raschke, L.M. Avis, J.T. Suttles, B.A. Wielicki, and R. Daview, 1986: Inversion methods for satellite studies of the Earth's radiation budget: Development of algorithms for the ERBE mission. *Rev. Geophys.*, **24**, 407-421.
- Smith, G.L., K.A. Bush, F.E. Martino, III, R. Hazra, N. Manalo-Smith, and D. Rutan, 1995: Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document. Volume IV - Determination of Surface and Atmosphere Fluxes and Temporally and Spatially Averaged Products (Subsystems 5-12), Subsystem 9.0—Grid TOA and Surface Fluxes for Instantaneous Surface Product, NASA Ref. Pub. 1376, Vol. IV, 129-138.
- Smith, R.C., and K.S. Baker, 1977: The bio-optical state of ocean waters and remote sensing. Scripps Institution of Oceanography, Ref. 77-2, 36 pp.
- Smith, R.C., and K.S. Baker, 1982: Oceanic chlorophyll concentrations as determined by satellite (Nimbus-7 Coastal Zone Color Scanner). *Marine Biology*, **66**, 269-279.
- Smith, R.C., and W.H. Wilson, 1981: Ship and satellite bio-optical research in the California Bight. In *Oceanography from Space*, ed. by J.F.R. Gower, Plenum, New York, 281-294.
- Smith, W.L., and H.M. Woolf, 1976: The use of eigenvectors of statistical covariance matrices for interpreting satellite sounding radiometer observations. *J. Atmos. Sci.*, **33**, 1127-1140.
- Smith, W.L., and F.X. Zhou, 1982: Rapid extraction of layer relative humidity, geopotential thickness and atmospheric stability from satellite sounding radiometer data. *Appl. Opt.*, **21**, 924-928.
- Smith, W.L., H.M. Woolf, and A.J. Schreiner, 1985: Simultaneous retrieval of surface and atmospheric parameters: A physical and analytically direct approach. In *Advances in Remote Sensing Retrieval Methods*, ed. by A. Deepak, H.E. Fleming, and M.T. Chahine, A. Deepak Publishing, Hampton, VA, 221-232.
- Smith, W.L., R.O. Knuteson, H.E. Revercombe, W. Feltz, H.B. Howell, W.P. Menzel, N.R. Nalli, O.B. Brown, J. Brown, P.J. Minnett and W. McKeown, 1996. Observations of the infrared radiative properties of the ocean—implications for the measurement of sea-surface temperature via satellite remote sensing. *Bull. Amer. Meteor. Soc.*, **77** (1), 41-51.
- Snyder, W., and Z. Wan, 1996: Surface temperature correction for active infrared reflectance measurements of natural materials. *Appl. Opt.*, **35** (13), 2216-2220.
- Sohn, B.-J., and F.R. Robertson, 1993: Intercomparison of observed cloud radiative forcing: A zonal and global perspective. *Bull. Amer. Meteor. Soc.*, **74**, 997-1006.
- Solomon, S., M. Mills, L.E. Heidt, W.H. Pollock, and A.F. Tuck, 1992: On the evaluation of ozone depletion potentials. *J. Geophys. Res.*, **97** (D1), 825-842.
- Solomon, S., R.W. Portmann, R.R. Garcia, L.W. Thomason, L.R. Poole, and M.P. McCormick, 1996: The role of aerosol variations in anthropogenic ozone depletion at northern midlatitudes. *J. Geophys. Res.*, **101** (D3), 6713-6727.
- Solomon, S., S. Bormann, R.R. Garcia, R. Portmann, L. Thomason, L.R. Poole, D. Winker, and M.P. McCormick, 1997: Heterogeneous chlorine chemistry in the tropopause region. *J. Geophys. Res.*, **102**, 21,411-21,429.
- Staelin, D.H., and F.W. Chen, 2000: Precipitation observations near 54 and 183 GHz using the NOAA-15 satellite. *IEEE Trans. Geosci. Remote Sens.*, in press.
- Staelin, D.H., K.F. Kunzi, R.L. Pettyjohn, R.K.L. Poon, R.W. Wilcox, and J.W. Waters, 1976: Remote sensing of atmospheric water vapor and liquid water with the Nimbus-5 microwave spectrometer. *J. Appl. Meteor.*, **15**, 1204-1214.

- Stogryn, A., 1978: Estimates of brightness temperatures from scanning radiometer data. *IEEE Trans. Antennas Propag.*, **5**, 720-726.
- Stolarski, R.S., and H.L. Wesoky, ed., 1993: *The Atmospheric Effects of Stratospheric Aircraft: A Third Program Report*, NASA Ref. Pub. 1313, National Aeronautics and Space Administration, Washington, D.C., 422 pp.
- Stowe, L.L., E.P. McClain, R. Carey, P. Pellegrino, G. Gutman, P. Davis, C. Long, and S. Hart, 1991: Global distribution of cloud cover derived from NOAA/AVHRR operational satellite data. *Adv. Space Res.*, **11**, 51-54.
- Stowe, L., P. Ardanuy, R. Hucek, P. Abel, and H. Jacobowitz, 1993: Evaluating the design of an earth radiation budget instrument with system simulations. Part I: Instantaneous estimates. *J. Atmos. Oceanic Tech.*, **10**, 809-826.
- Strabala, K.I., S.A. Ackerman, and W.P. Menzel, 1994: Cloud properties inferred from 8-12 micron data. *J. Appl. Meteor.*, **33**, 212-229.
- Strahler, A., A. Moody, and E. Lambin, 1995: Land cover and land-cover change from MODIS. *Proc. 15th Int. Geosci. and Remote Sens. Symp.*, Florence, Italy, July 10-14, 1995, vol. 2, 1535-1537.
- Stroeve, J., A. Nolin, and K. Steffen, 1997: Comparison of AVHRR-derived and in situ surface albedo over the Greenland Ice Sheet. *Remote Sens. Environ.*, **62**, 262-276.
- Strong, A.E., and E.P. McClain, 1984: Improved ocean surface temperature from space—comparisons with drifting buoys. *Bull. Amer. Meteor. Soc.*, **65** (2), 138-142.
- Strow, L.L., D.C. Tobin, W.W. McMillan, S. E. Hannon, W.L. Smith, H.E. Revercomb, and R. Knuteson, 1998: Impact of a new water vapor continuum and line shape model on observed high resolution infrared radiances. *J. Quantitative Spectroscopy and Radiative Transfer*, **59** (3-5), 303-317.
- Suarez, M., L.L. Takacs, A. Molod, and T. Wang, 1994: Documentation of the Goddard Earth Observing System (GEOS) General Circulation Model, Version 1. NASA Tech. Memo. 104606, NASA, Goddard Space Flight Center, Greenbelt, MD, 106 pp.
- Sullivan, J., L. Gandin, A. Gruber, and W. Baker, 1993: Observation error statistics for NOAA-10 temperature and height retrievals. *Mon. Wea. Rev.*, **121**, 2578-2587.
- Susskind, J., and D. Reuter, 1985: Retrieval of sea surface temperatures from HIRS2/MSU. *J. Geophys. Res.*, **90**, 11,602-11,608.
- Susskind, J., J. Joiner, and M.T. Chahine, 1993: Determination of temperature and moisture profiles in a cloudy atmosphere using AIRS/AMSU. In NATO ASI Series, Vol. 19. High spectral resolution infrared remote sensing for Earth's weather and climate studies, ed. by A. Chedin, M.T. Chahine, and N.A. Scott, Springer Verlag, Berlin Heidelberg, 149-161.
- Susskind, J., D. Reuter, and M.T. Chahine, 1997: Cloud fields derived from analysis of HIRS2/MSU sounding data. *J. Geophys. Res.*, **92**, 4035-4050.
- Susskind, J., J.C. Barnet, and J. Blaisdell, 1998: Determination of atmospheric and surface parameters from simulated AIRS/AMSU/HSB data: Retrieval and cloud clearing methodology. *Adv. Space Res.*, **21** (3), 369-384.
- Suttles, J.T., and G. Ohring, 1986: Surface radiation budget for climate applications. NASA Ref. Pub. 1169, Washington, DC, 136 pp.
- Tanré D., M. Herman and Y.J. Kaufman, 1996: Information on the aerosol size distribution contained in the solar reflected spectral radiances. *J. Geophys. Res.*, **101**, 19,043-19,060.
- Tanré D., Y.J. Kaufman, M. Herman, and S. Matto, 1997: Remote sensing of aerosol properties over oceans using the MODIS/EOS spectral radiances. *J. Geophys. Res.*, **102** (D14), 16,971-16,988.
- Tian, Y., Y. Zhang, Y. Knyazikhin, R.B. Myneni, J.M. Glassy, D. Dedieu, and S.W. Running, 2000: Prototyping of MODIS LAI and FPAR algorithm with LASUR and LANDSAT data. *IEEE Trans. Geosci. Remote Sens.*, in press.
- Topliss, B.J., and T. Platt, 1986: Passive fluorescence and photosynthesis in the ocean: Implications for remote sensing. *Deep Sea Res.*, **33**, 849-864.
- Townshend, J.R.G., and C.O. Justice, 1988: Selecting the spatial resolution of satellite sensors required for global monitoring of land transformations. *Int. J. Remote Sens.*, **9**, 187-236.

- Townshend, J.R.G., C.O. Justice, W. Li, C. Gurney, and J. McManus, 1991: Global land cover classification by remote sensing: Present capabilities and future possibilities. *Remote Sens. Environ.*, **35**, 243-256.
- Trenberth, K.E., 1998: Atmospheric moisture residence times and cycling: implications for rainfall rates and climate change. *Climate Change*, **39**, 667-694.
- Ustin, S.L., M.O. Smith, and J.B. Adams, 1993: Remote sensing of ecological processes: A strategy for developing and testing ecological models using spectral mixture analysis. In *Scaling Physiological Processes Leaf to Globe*, ed. by J.R. Ehleringer and C.B. Field, Academic Press, New York, 339-357.
- van Leeuwen, W.J.D., A.R. Huete, and T.W. Laing, 1999: MODIS vegetation index compositing approach: A prototype with AVHRR data. *Remote Sens. Environ.*, **69**, 264-280.
- Vermote, E.F., N. El Saleous, C.O. Justice, Y.J. Kaufman, J.L. Privette, L. Remer, J.C. Roger, and D. Tanré, 1997: Atmospheric correction of visible to middle-infrared EOS-MODIS data over land surfaces: Background, operational algorithm and validation. *J. Geophys. Res.*, **102** (D14), 17,131-17,141.
- Vladimer, J.A., P. Jastrzebski, M.C. Lee, P.H. Doherty, D.T. Decker, and D.N. Anderson, 1999: Longitude structure of ionospheric total electron content at low latitudes measured by the TOPEX/Poseidon satellite. *Radio Sci.*, **34** (5), 1239-1260.
- Vonder, O.W. and J.P.G.W. Clevers, 1998: *Multisensor RS Capabilities Land—Report I: Applications of Present and Future Optical Remote Sensing Satellite Sensors*, Wageningen Agricultural University, Netherlands, USP-2 98-25, BCBS, ISBN 90 5411 263-8, web address: <http://137.224.135.82/cgi/projects/bcrs/multisensor/report1/intro.htm>.
- Vorosmarty, C., A. Grace, B. Moore III, B. Choudhury, and C.J. Willmott, 1991: A strategy to study regional hydrology and terrestrial ecosystem processes using satellite remote sensing, ground-based data, and computer modeling. *Acta Astronautica*, **25**, 785-792.
- Wan, Z., and J. Dozier, 1996: A generalized split-window algorithm for retrieving land-surface temperature from space. *IEEE Trans. Geosci. Remote Sens.*, **34** (4), 892-905.
- Wan, Z., and Z.-L. Li, 1997: A physics-based algorithm for retrieving land-surface emissivity and temperature from EOS/MODIS data. *IEEE Trans. Geosci. Remote Sens.*, **35**, 980-996.
- Wang, J.R., and B.J. Choudhury, 1995: Passive microwave radiation from soil: Examples of emission models and observations. In *Passive Microwave Remote Sensing Research Related to Land-Atmosphere Interactions*, ed. by B.J. Choudhury, Y.H. Kerr, E.G. Njoku, and P. Pampaloni, VSP Press, The Netherlands, 423-460.
- Wang, M., and H.R. Gordon, 1994: Estimating aerosol optical properties over the oceans with MISR: Some preliminary studies. *Appl. Opt.*, **33**, 4042-4057.
- Wanner, W., X. Li, and A.H. Strahler, 1995: On the derivation of kernels for kernel-driven models of bidirectional reflectance. *J. Geophys. Res.*, **100**, 21,077-21,090.
- Wanner, W., A.H. Strahler, B. Hu, X. Li, C.L. Barker Schaaf, P. Lewis, J.-P. Muller, and M.J. Barnsley, 1997: Global retrieval of bidirectional reflectance and albedo over land from EOS MODIS and MISR data: Theory and algorithm. *J. Geophys. Res.*, **102**, 17,143-17,162.
- Webster, P.J., 1994: The role of hydrological processes in ocean-atmosphere interactions. *Rev. Geophys.*, **32**, 427-476.
- Weeks, W.F., 1981: Sea ice: The potential of remote sensing. *Oceanus*, **24**, 39-48.
- Weng, F., and N.C. Grody, 1994: Retrieval of cloud liquid water using the special sensor microwave imager (SSM/I). *J. Geophys. Res.*, **99**, 25,535-25,551.
- Wentz, F.J., 1975: A two-scale scattering model for foam-free sea microwave brightness temperatures. *J. Geophys. Res.*, **80**, 3441-3446.
- Wentz, F.J., 1983: A model function for ocean microwave brightness temperatures. *J. Geophys. Res.*, **88**, 1892-1908.
- Wentz, F.J., 1992: Measurement of oceanic wind vector using satellite microwave radiometers. *IEEE Trans. Geosci. Remote Sens.*, **30**, 960-972.
- Wentz, F.J., 1997: A well-calibrated ocean algorithm for SSM/I. *J. Geophys. Res.*, **102**, 8703-8718.

- Wentz, F.J., and D.K. Smith, 1999: A model function for the ocean-normalized radar cross section at 14 GHz derived from NSCAT observations. *J. Geophys. Res.*, **104**, 11,499-11,514.
- Wentz, F.J., and R.W. Spencer, 1998: SSM/I rain retrievals within a unified all-weather ocean algorithm. *J. Atmos. Sci.*, **55**, 1613-1627.
- Wharton, S.W., and M.F. Myers, eds, 1997: *1997 MTPE/EOS Data Products Handbook, Vol. 1, TRMM & AM-1*, NASA Goddard Space Flight Center, Greenbelt, MD, 266 pp.
- Whitlock, C.H., T.P. Charlock, W.F. Staylor, R.T. Pinker, I. Laszlo, A. Ohmura, H. Gilgen, T. Konzelman, R.C. DiPasquale, C.D. Moats, S.R. LeCroy, and N.A. Ritchey, 1995: First global WCRP shortwave surface radiation budget dataset. *Bull. Amer. Meteor. Soc.*, **76**, 905-922.
- Wielicki, B.A., R.D. Cess, M.D. King, D.A. Randall, and E.F. Harrison, 1995: Mission to Planet Earth: Role of clouds and radiation in climate. *Bull. Amer. Meteor. Soc.*, **76**, 2125-2153.
- Wielicki, B.A., B.R. Barkstrom, E.F. Harrison, R.B. Lee III, G.L. Smith, and J.E. Cooper, 1996: Clouds and the Earth's Radiant Energy System (CERES): An Earth Observing System experiment. *Bull. Amer. Meteor. Soc.*, **77**, 853-868.
- Wielicki, B.A., B.R. Barkstrom, and 21 others, 1998: Clouds and the Earth's Radiant Energy System (CERES): Algorithm overview. *IEEE Trans. Geosci. Remote Sens.*, **36**, 1127-1141.
- Wilheit, T.T., 1990: An algorithm for retrieving water vapor profiles in clear and cloudy atmospheres from 183 GHz radiometric measurements: Simulation studies. *J. App. Meteor.*, **29**, 508-515.
- Wilheit, T.T., and A.T.C. Chang, 1980: An algorithm for retrieval of ocean surface and atmospheric parameters from the observations of the Scanning Multichannel Microwave Radiometer (SMMR). *Radio Sci.*, **15**, 525-544.
- Wilheit, T.T., and M.G. Fowler, 1977: Microwave radiometric determination of wind speed at the surface of the ocean during BESEX. *IEEE Trans. Antennas Propag.*, **AP-25**, 111-120.
- Wilheit, T.T., A.T.C. Chang, and L.S. Chiu, 1991: Retrieval of monthly rainfall indices from microwave radiometric measurements using probability distribution functions. *J. Atmos. Oceanic Technol.*, **8**, 118-136.
- Willson, R.C., 1984: Measurements of solar total irradiance and its variability. *Space Sci. Rev.*, **38**, 203-242.
- Willson, R.C., 1997: Total solar irradiance trend during solar cycles 21 and 22. *Science*, **277**, 1963-1965.
- Willson, R.C., S. Gulkis, M. Janssen, H.S. Hudson, and G.A. Chapman, 1981: Observations of solar irradiance variability. *Science*, **211**, 700.
- Willson, R.C., and A.V. Mordvinov, 1999: Time-frequency analysis of total solar irradiance variations. *J. Geophys. Res.*, **26**, 3613-3616.
- World Meteorological Organization (WMO), 1992: Scientific assessment of ozone depletion: 1991, *Global Ozone Research and Monitoring Project*, World Meteorological Organization Report 25, 311 pp.
- World Meteorological Organization (WMO), 1995: Scientific assessment of ozone depletion: 1994, Global Ozone Res. and Monit. Proj., WMO Report 37, 326 pp.
- Woodard, M., and H.S. Hudson, 1983: Frequencies, amplitudes and linewidths of solar oscillations from total irradiance observations. *Nature*, **305**, 589-593.
- Wu, M., and L.-P. Chang, 1992: Longwave radiation budget parameters computed from ISCCP and HIRS2/MSU products. *J. Geophys. Res.*, **97**, 1083-1101.
- Wunsch, C., and E.M. Gaposchkin, 1980: On using satellite altimetry to determine the general circulation of the oceans with application to geoid improvement. *Rev. Geophys. Space Phys.*, **18**, 725-745.
- Wunsch, C., and D. Stammer, 1998: Satellite altimetry, the marine geoid, and the oceanic general circulation. *Ann. Rev. Earth Planet. Sci.*, **26**, 219-253.
- Wylie, D.P., and W.P. Menzel, 1998: Eight years of global high cloud statistics using HIRS. *J. Climate*, **12**, 170-184.

- Yoder, J.A., C.R. McClain, G.C. Feldman, and W.E. Esaias, 1993: Annual cycles of phytoplankton chlorophyll concentrations in the global ocean, A satellite view. *Global Biogeochem. Cycles*, **7**, 181-193.
- Young, D.F., E.F. Harrison, B.A. Wielicki, P. Minnis, G.G. Gibson, B.R. Barkstrom, T.P. Charlock, D.R. Doelling, A.J. Miller, O.C. Smith, and J.C. Stassi, 1995a: Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document. Volume IV - Determination of Surface and Atmosphere Fluxes and Temporally and Spatially Averaged Products (Subsystems 5-12), Subsystem 7.0 - Time Interpolation and Synoptic Flux Computation for Single and Multiple Satellites, NASA Ref. Pub. 1376, Vol. IV, 69-108.
- Young, D.F., E.F. Harrison, and E. Singh, 1995b: Clouds and the Earth's Radiant Energy System (CERES) Algorithm Theoretical Basis Document. Volume IV - Determination of Surface and Atmosphere Fluxes and Temporally and Spatially Averaged Products (Subsystems 5-12), Subsystem 8.0 - Monthly Regional, Zonal, and Global Radiation Fluxes and Cloud Properties, NASA Ref. Pub. 1376, Vol. IV, 109-128.
- Young, D.F., P. Minnis, D. Baumgardner, and H. Gerber, 1998: Comparison of in situ and satellite-derived cloud properties during SUCCESS. *Geophys. Res. Lett.*, **25**, 1125-1128.
- Zhan, X., R. DeFries, J.R.G. Townshend, C. DiMiceli, M. Hansen, C. Huang, and R. Sohlberg, 2000: The 250m global land cover change product from the Moderate Resolution Imaging Spectroradiometer of NASA's Earth Observing System. *Int. J. Remote Sens.*, **21**, 1433-1460.
- Zhan, X., R. DeFries, M. Hansen, C. DiMiceli, R. Sohlberg, and C. Huang. 1999: Algorithm Theoretical Basis Document of the MODIS Enhanced Land Cover and Land Cover Change Product (MOD 29), update available at <http://eospso.gsfc.nasa.gov/atbd/modistables.html>.
- Zhang, Y., Y. Tian, Y. Knyazikhin, J.V. Martonchick, D.J. Diner, M. Leroy, and R.B. Myneni, 2000: Prototyping of MODIS LAI and FPAR algorithm with POLDER data over Africa. *IEEE Trans. Geosci. Remote Sens.*, in press.
- Zwally, H.J., J.C. Comiso, C.L. Parkinson, W.J. Campbell, F.D. Carsey, and P. Gloersen, 1983: *Antarctic Sea Ice, 1973-1976: Satellite Passive-Microwave Observations*, NASA Spec. Pub. 459, National Aeronautics and Space Administration, Washington, D.C., 206 pp.